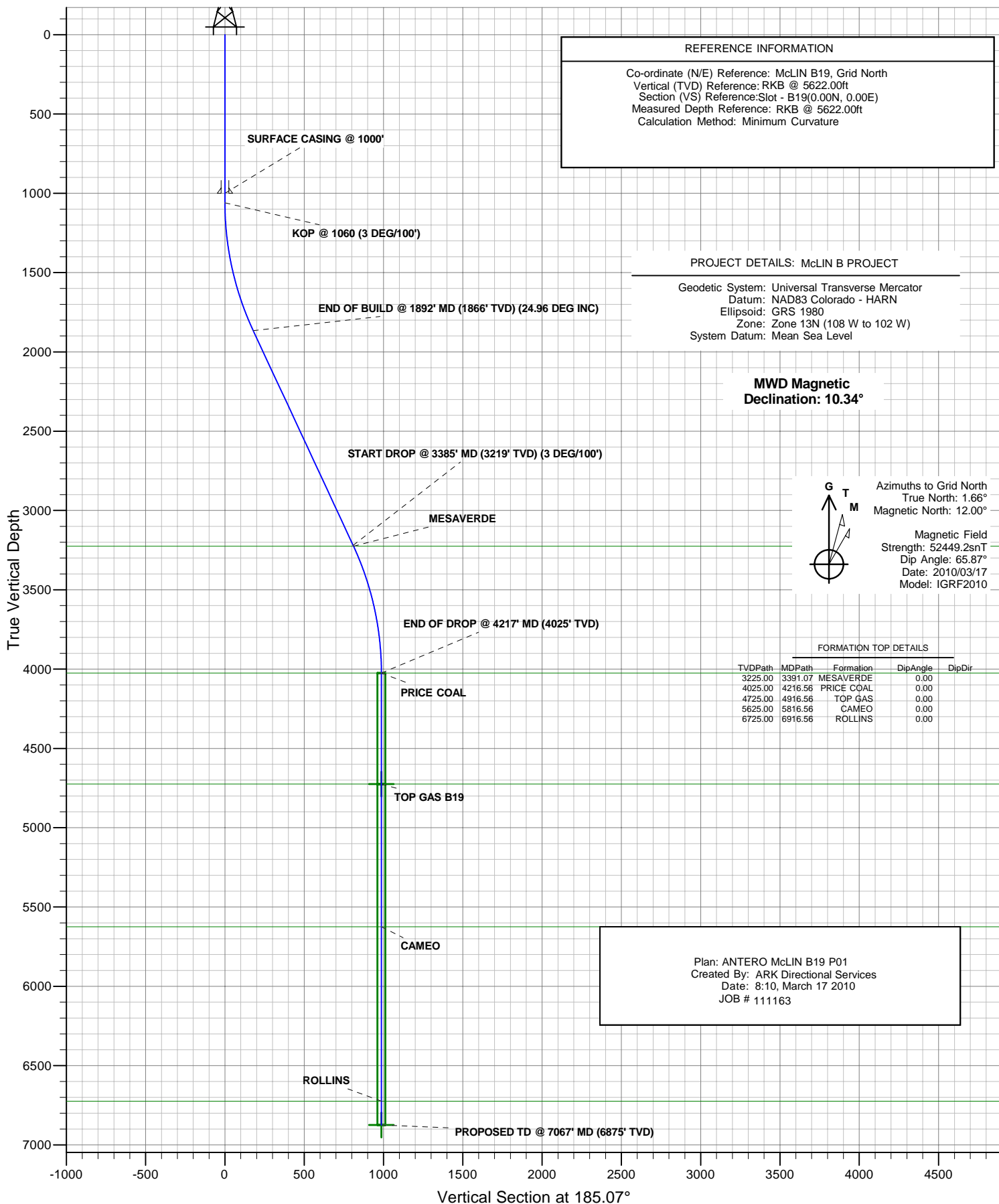




ANTERO RESOURCES

ANTERO McLIN B19



ANTERO RESOURCES

**McLIN B PROJECT
FRONTIER 12**

Plan: ANTERO McLIN B19 P01

Standard Planning Report - Geographic

17 March, 2010

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLIN B19 (111163) - Slot B19
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5622.00ft
Project:	McLIN B PROJECT	MD Reference:	RKB @ 5622.00ft
Site:	FRONTIER 12	North Reference:	Grid
Well:	McLIN B19 (111163)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO McLIN B19		
Design:	ANTERO McLIN B19 P01		

Project	McLIN B PROJECT		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	NAD83 Colorado - HARN		
Map Zone:	Zone 13N (108 W to 102 W)		

Site		FRONTIER 12			
Site Position:		Northing:	14,366,636.75 usft	Latitude:	39° 31' 51.798 N
From:	Lat/Long	Easting:	904,982.97 usft	Longitude:	107° 36' 29.317 W
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in	Grid Convergence:	-1.66 °

Well	McLIN B19 (111163) - Slot B19					
Well Position	+N/-S	0.00 ft	Northing:	14,366,606.26 usft	Latitude:	39° 31' 51.503 N
	+E/-W	0.00 ft	Easting:	905,004.80 usft	Longitude:	107° 36' 29.027 W
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	5,598.00 ft

Wellbore	ANTERO McLIN B19				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2010/03/17	10.34	65.87	52,449

Design	ANTERO McLIN B19 P01				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	185.07	

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,060.00	0.00	0.00	1,060.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,892.00	24.96	185.07	1,865.93	-177.68	-15.76	3.00	3.00	0.00	185.07	
3,384.82	24.96	185.07	3,219.33	-805.16	-71.44	0.00	0.00	0.00	0.00	
4,216.82	0.00	0.00	4,025.26	-982.84	-87.21	3.00	-3.00	0.00	180.00	
7,066.56	0.00	0.00	6,875.00	-982.84	-87.21	0.00	0.00	0.00	0.00	TD B19

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLIN B19 (111163) - Slot B19
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5622.00ft
Project:	McLIN B PROJECT	MD Reference:	RKB @ 5622.00ft
Site:	FRONTIER 12	North Reference:	Grid
Well:	McLIN B19 (111163)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO McLIN B19		
Design:	ANTERO McLIN B19 P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
100.00	0.00	0.00	100.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
200.00	0.00	0.00	200.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
300.00	0.00	0.00	300.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
400.00	0.00	0.00	400.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
500.00	0.00	0.00	500.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
600.00	0.00	0.00	600.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
700.00	0.00	0.00	700.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
800.00	0.00	0.00	800.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
900.00	0.00	0.00	900.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
1,000.00	0.00	0.00	1,000.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
SURFACE CASING @ 1000'									
1,060.00	0.00	0.00	1,060.00	0.00	0.00	14,366,606.26	905,004.80	39° 31' 51.503 N	107° 36' 29.027 W
KOP @ 1060 (3 DEG/100')									
1,100.00	1.20	185.07	1,100.00	-0.42	-0.04	14,366,605.84	905,004.76	39° 31' 51.499 N	107° 36' 29.027 W
1,200.00	4.20	185.07	1,199.87	-5.11	-0.45	14,366,601.15	905,004.35	39° 31' 51.452 N	107° 36' 29.031 W
1,300.00	7.20	185.07	1,299.37	-15.00	-1.33	14,366,591.26	905,003.47	39° 31' 51.354 N	107° 36' 29.039 W
1,400.00	10.20	185.07	1,398.21	-30.07	-2.67	14,366,576.20	905,002.13	39° 31' 51.205 N	107° 36' 29.050 W
1,500.00	13.20	185.07	1,496.12	-50.26	-4.46	14,366,556.00	905,000.34	39° 31' 51.005 N	107° 36' 29.065 W
1,600.00	16.20	185.07	1,592.83	-75.54	-6.70	14,366,530.72	904,998.10	39° 31' 50.755 N	107° 36' 29.085 W
1,700.00	19.20	185.07	1,688.09	-105.82	-9.39	14,366,500.44	904,995.41	39° 31' 50.455 N	107° 36' 29.108 W
1,800.00	22.20	185.07	1,781.62	-141.02	-12.51	14,366,465.24	904,992.29	39° 31' 50.106 N	107° 36' 29.135 W
1,892.00	24.96	185.07	1,865.93	-177.68	-15.76	14,366,428.58	904,989.04	39° 31' 49.743 N	107° 36' 29.162 W
END OF BUILD @ 1892' MD (1866' TVD) (24.96 DEG INC)									
1,900.00	24.96	185.07	1,873.19	-181.04	-16.06	14,366,425.22	904,988.74	39° 31' 49.710 N	107° 36' 29.165 W
2,000.00	24.96	185.07	1,963.85	-223.07	-19.79	14,366,383.19	904,985.01	39° 31' 49.294 N	107° 36' 29.197 W
2,100.00	24.96	185.07	2,054.51	-265.11	-23.52	14,366,341.15	904,981.28	39° 31' 48.878 N	107° 36' 29.229 W
2,200.00	24.96	185.07	2,145.17	-307.14	-27.25	14,366,299.12	904,977.55	39° 31' 48.462 N	107° 36' 29.261 W
2,300.00	24.96	185.07	2,235.83	-349.17	-30.98	14,366,257.09	904,973.82	39° 31' 48.045 N	107° 36' 29.293 W
2,400.00	24.96	185.07	2,326.49	-391.21	-34.71	14,366,215.05	904,970.09	39° 31' 47.629 N	107° 36' 29.325 W
2,500.00	24.96	185.07	2,417.15	-433.24	-38.44	14,366,173.02	904,966.36	39° 31' 47.213 N	107° 36' 29.357 W
2,600.00	24.96	185.07	2,507.81	-475.27	-42.17	14,366,130.99	904,962.63	39° 31' 46.797 N	107° 36' 29.389 W
2,700.00	24.96	185.07	2,598.47	-517.31	-45.90	14,366,088.95	904,958.90	39° 31' 46.380 N	107° 36' 29.421 W
2,800.00	24.96	185.07	2,689.13	-559.34	-49.63	14,366,046.92	904,955.17	39° 31' 45.964 N	107° 36' 29.453 W
2,900.00	24.96	185.07	2,779.79	-601.37	-53.36	14,366,004.89	904,951.44	39° 31' 45.548 N	107° 36' 29.485 W
3,000.00	24.96	185.07	2,870.45	-643.41	-57.09	14,365,962.85	904,947.71	39° 31' 45.132 N	107° 36' 29.517 W
3,100.00	24.96	185.07	2,961.11	-685.44	-60.82	14,365,920.82	904,943.98	39° 31' 44.715 N	107° 36' 29.549 W
3,200.00	24.96	185.07	3,051.77	-727.47	-64.55	14,365,878.79	904,940.25	39° 31' 44.299 N	107° 36' 29.581 W
3,300.00	24.96	185.07	3,142.43	-769.51	-68.28	14,365,836.75	904,936.52	39° 31' 43.883 N	107° 36' 29.613 W
3,384.82	24.96	185.07	3,219.33	-805.16	-71.44	14,365,801.10	904,933.36	39° 31' 43.530 N	107° 36' 29.641 W
START DROP @ 3385' MD (3219' TVD) (3 DEG/100')									
3,391.07	24.77	185.07	3,225.00	-807.78	-71.67	14,365,798.48	904,933.13	39° 31' 43.504 N	107° 36' 29.643 W
MESAVERDE									
3,400.00	24.50	185.07	3,233.11	-811.49	-72.00	14,365,794.78	904,932.80	39° 31' 43.467 N	107° 36' 29.645 W
3,500.00	21.50	185.07	3,325.15	-850.41	-75.46	14,365,755.85	904,929.35	39° 31' 43.082 N	107° 36' 29.675 W
3,600.00	18.50	185.07	3,419.11	-884.48	-78.48	14,365,721.78	904,926.32	39° 31' 42.745 N	107° 36' 29.701 W
3,700.00	15.50	185.07	3,514.72	-913.61	-81.06	14,365,692.65	904,923.74	39° 31' 42.456 N	107° 36' 29.723 W
3,800.00	12.50	185.07	3,611.74	-937.71	-83.20	14,365,668.55	904,921.60	39° 31' 42.217 N	107° 36' 29.742 W
3,900.00	9.50	185.07	3,709.89	-956.72	-84.89	14,365,649.54	904,919.91	39° 31' 42.029 N	107° 36' 29.756 W
4,000.00	6.50	185.07	3,808.91	-970.59	-86.12	14,365,635.67	904,918.68	39° 31' 41.892 N	107° 36' 29.767 W
4,100.00	3.50	185.07	3,908.51	-979.28	-86.89	14,365,626.98	904,917.91	39° 31' 41.806 N	107° 36' 29.773 W
4,200.00	0.50	185.07	4,008.44	-982.77	-87.20	14,365,623.50	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
4,216.56	0.01	185.07	4,025.00	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
PRICE COAL									

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLIN B19 (111163) - Slot B19
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5622.00ft
Project:	McLIN B PROJECT	MD Reference:	RKB @ 5622.00ft
Site:	FRONTIER 12	North Reference:	Grid
Well:	McLIN B19 (111163)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO McLIN B19		
Design:	ANTERO McLIN B19 P01		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,216.82	0.00	185.07	4,025.26	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
END OF DROP @ 4217' MD (4025' TVD)									
4,300.00	0.00	0.00	4,108.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
4,400.00	0.00	0.00	4,208.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
4,500.00	0.00	0.00	4,308.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
4,600.00	0.00	0.00	4,408.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
4,700.00	0.00	0.00	4,508.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
4,800.00	0.00	0.00	4,608.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
4,900.00	0.00	0.00	4,708.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
4,916.56	0.00	0.00	4,725.00	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
TOP GAS - TOP GAS B19									
5,000.00	0.00	0.00	4,808.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
5,100.00	0.00	0.00	4,908.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
5,200.00	0.00	0.00	5,008.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
5,300.00	0.00	0.00	5,108.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
5,400.00	0.00	0.00	5,208.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
5,500.00	0.00	0.00	5,308.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
5,600.00	0.00	0.00	5,408.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
5,700.00	0.00	0.00	5,508.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
5,800.00	0.00	0.00	5,608.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
5,816.56	0.00	0.00	5,625.00	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
CAMEO									
5,900.00	0.00	0.00	5,708.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
6,000.00	0.00	0.00	5,808.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
6,100.00	0.00	0.00	5,908.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
6,200.00	0.00	0.00	6,008.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
6,300.00	0.00	0.00	6,108.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
6,400.00	0.00	0.00	6,208.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
6,500.00	0.00	0.00	6,308.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
6,600.00	0.00	0.00	6,408.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
6,700.00	0.00	0.00	6,508.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
6,800.00	0.00	0.00	6,608.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
6,900.00	0.00	0.00	6,708.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
6,916.56	0.00	0.00	6,725.00	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
ROLLINS									
7,000.00	0.00	0.00	6,808.44	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
7,066.52	0.00	0.00	6,874.96	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
PROPOSED TD @ 7067' MD (6875' TVD)									
7,066.56	0.00	0.00	6,875.00	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
TD B19									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
TOP GAS B19 - plan hits target center - Circle (radius 25.00)	0.00	0.00	4,725.00	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W
TD B19 - plan hits target center - Circle (radius 25.00)	0.00	0.00	6,875.00	-982.84	-87.21	14,365,623.42	904,917.60	39° 31' 41.771 N	107° 36' 29.776 W

ARK Directional Services

Planning Report - Geographic

Database:	EDM SERVER DB	Local Co-ordinate Reference:	Well McLIN B19 (111163) - Slot B19
Company:	ANTERO RESOURCES	TVD Reference:	RKB @ 5622.00ft
Project:	McLIN B PROJECT	MD Reference:	RKB @ 5622.00ft
Site:	FRONTIER 12	North Reference:	Grid
Well:	McLIN B19 (111163)	Survey Calculation Method:	Minimum Curvature
Wellbore:	ANTERO McLIN B19		
Design:	ANTERO McLIN B19 P01		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,000.00	1,000.00	SURFACE CASING @ 1000'	9.62	12.25	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
3,391.07	3,225.00	MESAVERDE		0.00	
4,216.56	4,025.00	PRICE COAL		0.00	
4,916.56	4,725.00	TOP GAS		0.00	
5,816.56	5,625.00	CAMEO		0.00	
6,916.56	6,725.00	ROLLINS		0.00	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,060.00	1,060.00	0.00	0.00	KOP @ 1060 (3 DEG/100')	
1,892.00	1,865.93	-177.68	-15.76	END OF BUILD @ 1892' MD (1866' TVD) (24.96 DEG INC)	
3,384.82	3,219.33	-805.16	-71.44	START DROP @ 3385' MD (3219' TVD) (3 DEG/100')	
4,216.82	4,025.26	-982.84	-87.21	END OF DROP @ 4217' MD (4025' TVD)	
7,066.52	6,874.96	-982.84	-87.21	PROPOSED TD @ 7067' MD (6875' TVD)	